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## We Claim:

1. A polypropylene, suitable for forming a blown film, the polypropylene comprising: a homopolymer polypropylene having a  $M_w/M_n$  of less than 6.0, a melt flow rate of greater than 5 g/10 min, less than 2% xylene solubles, a pentad isotacticity of greater than 95%, an isotactic pentad/triad ratio of greater than 95%, a crystallinity of at least 65%, and a crystallization temperature of at least 127°C, the polypropylene containing from 500 ppm to 2500 ppm of a nucleator/clarifier additive and wherein a blown film is capable of being manufactured from the resin at a rate of at least 6 lb/hr-in of die circumference and wherein a one mil thick blown film manufactured from the polypropylene using at least a 1.5 blow-up ratio exhibits a 1% secant modulus of at least 200,000 psi according to ASTM D882, a haze of less than 10 as measured by ASTM D1003, and a clarity of greater than 96%.  
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- 15 2. The polypropylene of Claim 1, wherein the polypropylene has a melt flow rate of from 6.0 to 20 g/10 min and the one mil thick film is manufactured using at least a 2.5 blow-up ratio.
- 20 3. The polypropylene of Claim 2, wherein the polypropylene has a  $M_w/M_n$  of less than 5.5, less than 1% xylene solubles, a pentad isotacticity of greater than 98%, a isotactic pentad/triad ratio of greater than 98%, a crystallinity of at least 75%, and a crystallization temperature of at least 130°C.
- 25 4. The polypropylene of Claim 2, wherein the one mil blown film made from the polypropylene exhibits a 1% secant modulus of at least 220,000 psi.
5. The polypropylene of Claim 4, wherein the polypropylene contains from 650 to 2000 ppm of a nucleator/clarifier additive.

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6. The polypropylene of Claim 5, wherein a one mil thick blown film made from the polypropylene exhibits a 1% secant modulus of at least 240,000 psi.

7. The polypropylene of Claim 4, wherein the polypropylene contains from 5 750 to 1250 ppm of a nucleator/clarifier additive and a one mil blown film is capable of being manufactured from the polypropylene at a rate of at least 8 lb/hr-in of die circumference.

8. The polypropylene of Claim 7, wherein the polypropylene exhibits a 10 crystallinity of at least 70% and a one mil thick blown film made from the polypropylene exhibits a 1% secant modulus of at least 240,000 psi, a haze of less than 8 as measured by ASTM D1003, and a clarity of greater than 98%.

9. The polypropylene of Claim 8, wherein the polypropylene exhibits a crystallinity of at least 75%.

10. The polypropylene of Claim 1, wherein the one mil thick film manufactured from the polypropylene lays flat on the take up roll with no significant wrinkles and has a gauge variation of less than 10%.

11. The polypropylene of Claim 10, wherein the one mil thick film is manufactured using at least a 2.5 blow-up ratio and the film has a gauge variation of less 20 than 5%.

12. The polypropylene of Claim 1, wherein the nucleator/clarifier additive is selected from the group consisting of: Methylene-bis(4,6-di-ter-butylphenyl) phosphate sodium salt, Aluminum hydroxybis[2,4,8,10-tetrakis(1,1-dimethylethyl)-6-hydroxy-12H-dibenzo[d,g] [1,3,2]dioxaphoshocin 6-oxidato], sorbitols, chemical 25 derivatives of any of these compounds and mixtures thereof.

13. The polypropylene of Claim 12, wherein the sorbitol is 3,4-Dimethylbenzylidene Sorbitol or chemical derivatives thereof.

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14. The polypropylene of Claim 12, wherein the nucleator/clarifier additive is selected from the group consisting of: Methylene-bis(4,6-di-ter-butylphenyl) phosphate sodium salt, Aluminum hydroxybis[2,4,8,10-tetrakis(1,1-dimethylethyl)-6-hydroxy-12H-dibenzo[d,g], chemical derivatives of any of these compounds and mixtures thereof.

15. The polypropylene of Claim 12, wherein the nucleator/clarifier is Methylene-bis(4,6-di-ter-butylphenyl) phosphate sodium salt or chemical derivatives thereof.

16. The polypropylene of Claim 15, wherein the polypropylene contains from 750 to 1250 ppm of the nucleator/clarifier additive and a one mil blown film is capable of being manufactured from the polypropylene at a rate of at least 8 lb/hr-in of die circumference.

17. A polypropylene, suitable for forming a blown film, the polypropylene comprising: a polypropylene copolymer containing less than 2% by weight units derived from ethylene and having a  $M_w/M_n$  of less than 6.0, a melt flow rate of greater than 5 g/10 min, less than 3% xylene solubles, a pentad isotacticity of greater than 91%, an isotactic pentad/triad ratio of greater than 95%, a crystallinity of at least 65%, and a crystallization temperature of at least 127°C, the polypropylene containing from 500 ppm to 2500 ppm of a nucleator/clarifier additive and wherein a blown film is capable of being manufactured from the polypropylene at a rate of at least 6 lb/hr-in of die circumference and wherein a one mil thick blown film manufactured from the polypropylene using at least a 1.5 blow-up ratio exhibits a 1% secant modulus of at least 150,000 psi according to ASTM D882, a haze of less than 10 as measured by ASTM D1003, and a clarity of greater than 96%.

18. The polypropylene of Claim 17, wherein the polypropylene has a  $M_w/M_n$  of less than 5.5, less than 2% xylene solubles, a pentad isotacticity of greater than 95%, a

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isotactic pentad/triad ratio of greater than 98%, a crystallinity of at least 67%, and a crystallization temperature of at least 128°C.

19. The polypropylene of Claim 18, wherein polypropylene copolymer contains from 0.1 to 0.7 % by weight units derived from ethylene and wherein a one mil thick blown  
5 film manufactured from the polypropylene exhibits a 1% secant modulus of at least 165,000 psi according to ASTM D882.

20. The polypropylene of Claim 18, wherein a one mil thick blown film manufactured from the polypropylene exhibits a 1% secant modulus of at least 180,000 psi according to ASTM D882.

10 21. The polypropylene of Claim 18, wherein a one mil thick blown film manufactured from the polypropylene exhibits a 1% secant modulus of at least 200,000 psi according to ASTM D882.

22. The polypropylene of Claim 17, wherein the one mil thick film manufactured from the polypropylene lays flat on the take up roll with no significant  
15 wrinkles and has a gauge variation of less than 10%.

23. The polypropylene of Claim 17, wherein the nucleator/clarifier additive is selected from the group consisting of: Methylene-bis(4,6-di-ter-butylphenyl) phosphate sodium salt, Aluminum hydroxybis[2,4,8,10-tetrakis(1,1-dimethylethyl)-6-hydroxy-12H-dibenzo[d,g] [1,3,2]dioxaphoshocin 6-oxidato], sorbitols, chemical derivatives  
20 of any of these compounds, and mixtures thereof.

24. The polypropylene of Claim 17, wherein the sorbitol is 3,4-Dimethylbenzylidine Sorbitol or chemical derivatives thereof.

25. The polypropylene of Claim 17, wherein the nucleator/clarifier additive is selected from the group consisting of: Methylene-bis(4,6-di-ter-butylphenyl) phosphate sodium salt, Aluminum hydroxybis[2,4,8,10-tetrakis(1,1-dimethylethyl)-6-hydroxy-12H-dibenzo[d,g], chemical derivatives of any of these  
25 compounds, and mixtures thereof.

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26. The polypropylene of Claim 17, wherein the polypropylene contains from 750 to 1250 ppm of Methylene-bis(4,6-di-ter-butylphenyl) phosphate sodium salt or chemical derivatives thereof.

27. A air quenched blown film made from the polypropylene of any of claims 1  
5 through 26.

28. The film of Claim 27, wherein the film comprises a monolayer film.

29. The film of Claim 27, wherein the film comprises a multi layer, coextruded, blown film, the film being comprised of at least a first and a second layer, the polypropylene of any of claims 1 through 26 being contained in the first layer.

10 30. The film of Claim 29, wherein the second layer comprises a thermoplastic.

31. The film of Claim 29, wherein the second layer comprises an ethylene-based polymer having a majority of monomer units derived from ethylene.

32. The film of any of Claims 27 through 31, wherein the film is manufactured at a rate of at least 6 lb/hr-inch die circumference using a blow-up ratio of at least 1.5.

15 33. The film of any of Claims 27 through 31, wherein the film is manufactured at a rate of at least 8 lb/hr-inch die circumference using a blow-up ratio of at least 1.5.

34. The film of Claim 32 or 33, wherein the film is manufactured using a blow-up ratio of at least 2.5.

20 35. The film of Claim 30, wherein the second layer is comprised of polymers selected from the group consisting of: EVOH, PVDC, Saran, EVA, EAA, malaic anhydride grafted polypropylene or polyethylene, EMA, ethylene-acrylate copolymers, acrylic acid copolymers, and mixtures thereof.

36. An air quenched blown film process used for making any of the films of Claims 27 through 35.

25 37. A polypropylene composition, suitable for forming an air quenched blown film, the polypropylene comprising: a polypropylene having a melt flow rate of greater than 5 g/10 min, less than 2% xylene solubles, a pentad isotacticity of greater than 95%, an isotactic pentad/triad ratio of greater than 95%, a crystallinity of at least 65%, and a crystallization temperature of at least 127°C, the polypropylene composition containing

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from 500 ppm to 2500 ppm of a nucleator/clarifier additive, wherein an air quenched blown film made from composition when tested at a DSC scan rate of 200<sup>0</sup>C/minute exhibits a crystallization onset temperature of at least 116<sup>0</sup>C and a crystallization half-life time of less 4.1 seconds or less.

5           38.     The polypropylene composition of Claim 37, wherein an air quenched blown film made from the composition when tested at a DSC scan rate of 200<sup>0</sup>C/minute further exhibits a steepest onset slope of less than -900 Watts/gram-minute.

          39.     The polypropylene composition of Claim 37, wherein the film exhibits a crystallization onset temperature of at least 120<sup>0</sup>C.

10          40.     The polypropylene composition of Claim 37, wherein the film exhibits a crystallization half-life time of 4.0 seconds or less.

          41.     The polypropylene composition of Claim 37, wherein the nucleator/clarifier additive comprises Methylene-bis(4,6-di-ter-butylphenyl) phosphate sodium salt.

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